

**ARCHITECTURES FOR A MODULARIZED DATA OPTIMIZATION  
ENGINE AND METHODS THEREFOR**

**ABSTRACT**

5        A data optimization engine disposed inline with a first communication channel  
and a second communication channel. The data optimization engine comprises a  
transmit interface circuit configured to receive a first data stream from the first  
communication channel and to obtain a first data file from the first data stream. The  
data optimization engine further includes an optimization processor coupled to the  
10       transmit interface circuit for receiving a second data file from the transmit interface  
circuit. The second data file represents the first data file after the first data file has  
been processed by the transmit interface circuit into a format suitable for optimization  
by the optimization processor. The optimization processor performs one of a  
compression and an encryption on the second data file, thereby obtaining an optimized  
15       data file. In one embodiment, the first data file is a Fiber Channel data frame. In  
another embodiment, the first data file is encoded using 10-bit encoding, the format  
suitable for optimization by the optimization processor is an 8-bit encoding protocol.